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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,499	08/22/2003	Satoshi Yoshida	03508.003144.1	8760

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EXAMINER

RODEE, CHRISTOPHER D

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 06/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/645,499	<b>Applicant(s)</b> YOSHIDA ET AL.	
	<b>Examiner</b> Christopher RoDee	<b>Art Unit</b> 1756	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 83-88, 90, 91, 95, 97-104, 109-126, 128, 129, 133 and 135-145 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 83-88, 90, 91, 95, 97-104, 109-126, 128, 129, 133 and 135-145 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☒ Certified copies of the priority documents have been received in Application No. 09/788397.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>5/21/04, 8/22/03</u> . | 6) <input type="checkbox"/> Other: ____.  |

**DETAILED ACTION*****Priority***

Applicants are asked to update the status of the parent application in the instant specification.

***Information Disclosure Statement***

The information disclosure statement filed 22 August 2003 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered. The references lined-through on PTO-1449 do not have a concise explanation of relevance as required by 37 CFR 1.98(a)(3). These references have not been considered. These same remarks were presented in the parent application concerning these documents.

The information disclosure statement filed 21 May 2004 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. The information disclosure statement also fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information

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referred to therein has not been considered. The EPO search report or other statement of relevance has not been submitted.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 83-88, 90, 91, 95, 97-104, 112, 117-126, 128, 129, 133, and 135-145 are rejected under 35 U.S.C. 102(e) as being anticipated by Nagase *et al.* in US Patent 6,081,681.

Nagase discloses a process cartridge having an image-bearing member **1**, a contact charging brush having a voltage **2**, a developing means **4** having a gap of 300  $\mu\text{m}$  (col. 8, l. 64) between it and the member **1**, and either a cleaning means **7** or is removed by the developing means to recycle the toner (Figs. 1 & 6; Embodiments 1 and 2; col. 8, l. 15 - col. 16, l. 9). Charge facilitator particles, such as electroconductive zinc oxide (a non-magnetic material) having a resistivity of  $10^6 \Omega\text{cm}$  (col. 14, l. 62), are applied as part of the toner (col. 14, l. 46-67) or by a separate means for this purpose **8** (col. 9, l. 46-59). In Embodiment 2 the electroconductive charge facilitator particles are retained on the surface of the image-bearing member and are present at the position where the contact charger charges the image-bearing member (col. 15, l. 26-35, l. 53 -

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col. 16, l. 2). This passage is particularly pertinent to claims 83 and 121, which require the electroconductive particles retained on the surface of the image-bearing member.

Claims 83 and 121 and those dependent are not seen as specifically requiring the presence of the developer, only that electroconductive particles having the specified characteristics (i) and (ii) are present because of the “copresent” and “allowed to remain on the image-bearing member” limitations of the instant claims. Nagase discloses electroconductive particles having the requisite non-magnetic character and resistivity. The amount of this component specified in (iii) and (iv) with respect to the toner is not a positive claim limitation because the toner is a material worked upon by the apparatus and does not provide a positive limitation to the claimed apparatuses.

As each of the structural components of the claimed device (i.e., apparatus) is present in the reference, the reference properly anticipates the instant claims. Applicants are advised that the developer does not impart a patentable limitation to the process cartridge because the developer is a material worked upon by the apparatus. The developer is a material worked upon the apparatus because it is consumed during the normal and desired functioning of the process cartridge. Further the developer changes as a result of from the process from discrete toner particles to a fused mass representing the image produced. Clearly the developer is worked upon by the apparatus because it is consumed and changes form as a result of the desired use of the process cartridge. See MPEP 2115.

An analysis of the current claims appears helpful. The claims refer to a “process-cartridge detachably mountable to a main assembly of an image forming apparatus for developing an electrostatic latent image formed on an image-bearing member with a developer to form a toner image”. The developer is part of the “for developing an electrostatic latent image...” portion of the claim. This portion of the claim refers to the

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intended use of the process cartridge when it is mounted to the image forming apparatus. The transferring and fixing steps can only occur when the process cartridge is part of the apparatus. It is apparent that the “for developing”, “transferring”, and “fixing” passage is directed to the use of the apparatus when the process cartridge is mounted therein. Thus the developer (which is only recited when the process cartridge is mounted in the apparatus) is not present in the process cartridge alone. The claims, however, are only directed to the process cartridge alone. Thus the developer is not present in the claimed process cartridge.

The claims also state that “charging means includes a charging member disposed to contact the image-bearing member and supplied with a voltage to charge the image-bearing member at a contact position where at least the electroconductive fine powder of the developer is co-present as a portion of the developer attached to and allowed to remain on the image-bearing member after transfer of the toner image by the transfer means.” In this passage, the claim refers to the intended operation of the process cartridge when mounted in the image forming apparatus. The electroconductive fine powder of the developer is attached to and allowed to remain on the image-bearing member after transfer of the toner image by the transfer means. This clearly refers to an operational step of the apparatus when it contains the process cartridge because the transfer means is not part of the process cartridge but is part of the apparatus. The transfer means recited in this portion of the claim is part of the apparatus rather than the process cartridge noting transfer means 5 in Figure 1 and the corresponding description in Example 23A (spec. p. 218, l. 17+).

As seen in this discussion, the developer limitations are intended use limitations of the developer and are all reliant on the process cartridge in the apparatus. The developer limitations are also reliant on the function of the apparatus (e.g., condition

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after transferring). As stated above, the apparatus is not part of the claimed process cartridge and the apparatus is not a required component of the instant claims. The toner does not impart a patentable limitation to the process cartridge claims because it is not present in the process cartridge and because it is a material worked upon by the apparatus for the reasons given above and the previous discussions.

Thus the art disclosure of the process cartridge having all the requisite means of the rejected process-cartridge claims anticipates the claimed cartridge. Although the claims recite specific developer formulations that are not specifically disclosed by the reference, the specific developers do not serve to distinguish the claimed apparatus from that of the reference. See *Ex parte Masham*, 2 USPQ2d 1647, 1648.

Claims 83-88, 90, 91, 95, 97-104, 109-111, 113, 117-126, 128, 129, 133, and 135-145 are rejected under 35 U.S.C. 102(e) as being anticipated by Chigono *et al.* in US Patent 6,128,456.

Chigono discloses a process cartridge 7 having an image-bearing member 1, a contact-charging roller having a voltage 2 (col. 2, l. 65 - col. 3, l. 31), and a developing means 4 having a gap between it and the member 1. Residual toner is removed by the developing means to recycle the toner (Figs. 4 & 6). The contact charging roller has an Asker C hardness of 25-50 degrees, has a electrical resistance of  $10^4$  to  $10^7$   $\Omega\text{cm}$ , and is an elastic foam (col. 9, l. 27-65; col. 20, l. 15-64). Charge facilitator particles, such as electroconductive zinc oxide (a non-magnetic material) having a resistivity of  $10^6$  or  $10^7$   $\Omega\text{cm}$  (col. 10, l. 66 - col. 11, l. 15; col. 22, l. 1-10), are applied as part of the toner (col. 14, l. 46-67). The surface-most layer of the image-bearing member has a volume resistivity of  $10^{13}$   $\Omega\text{cm}$  (col. 18, l. 4).

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As each of the structural components of the claimed device (i.e., apparatus) is present in the reference, the reference properly anticipates the instant claims. Applicants are advised that the developer does not impart a patentable limitation to the process cartridge because the developer is a material worked upon by the apparatus (i.e., the toner is consumed in the imaging process as part of the apparatuses intended function). See MPEP 2115. Thus the disclosure of the process cartridge having all the requisite means of the rejected process-cartridge claims anticipates the claimed cartridge. Although the claims recite specific developer formulations that are not specifically disclosed by the reference, the specific developers do not serve to distinguish the claimed apparatus from that of the reference. See *Ex parte Masham*, 2 USPQ2d 1647, 1648. See remarks above concerning claim interpretation as it relates to the instant claims.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 115 and 116 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chigono *et al.* in US Patent 6,128,456 in view of Itami in US Patent 6,258,499.

Chigono was described above. The reference does not specifically disclose the contact angle with water for the surface layer of the photosensitive members disclosed.



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However, the reference is concerned with cleaning residual toner from the surface of the image-bearing member (Abstract; col. 23, l. 51-60).

Itami discloses an image-bearing member (i.e., a photoreceptor) having a surface with a water contact angle of at least 90° (Abstract). The surface layer contains a polycarbonate having fluorine or silicon atoms and a solid lubricating agent, such as PTFE (col. 1, l. 42-50; col. 2, l. 26-41; col. 3, l. 44-45; 6, l. 1-32; col. 17, l. 47-65).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to prepare the surface layer of Chigono's image-bearing member so that it has a contact angle with water of at least 90° because Itami discloses that this feature prevents filming of the toner on the surface of the image-bearing member.

Claim 114 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chigono *et al.* in US Patent 6,128,456 in view of Ito in US Patent Application Publication 2002/0048711.

Chigono was discussed above. That reference does not describe the presence of conductive oxides particles in the surface layer of the image-bearing member, but Ito teaches that conductive oxide particles are well known in the art to be used in the protective overcoat layer of a photoreceptor (¶¶ [0009] - [0011]). Tantalum-doped tin oxide is disclosed as environmentally benign while still providing the conductivity characteristics required for a photoreceptor. Volume resistivities of this layer range from  $10^6$  to  $10^{14}$   $\Omega\text{cm}$  (¶ [0033]). These oxides are dispersed in a binder resin to form the protective layer (¶ [0053]).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to add tantalum-doped tin oxide to the surface layer of Chigono's

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image-bearing member because Ito teaches that this compound provides the requisite volume resistivity to the member while giving superior images.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher RoDee whose telephone number is 571-272-1388. The examiner can normally be reached on most weekdays from 6:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**CHRISTOPHER RODEE  
PRIMARY EXAMINER**

cdr  
24 June 2004